

## Recovery Plan Action Status

**Plan Name:** Hawaiian Dark-rumped Petrel and Newell's Manx Shearwater Recovery Plan

**Plan Status:** Final

**Plan Date:** 25-Apr-83

**Lead Agency:** USFWS

**Lead Office:** Pacific Islands Fish And Wildlife Office

(408)

(792-9400 )

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian dark-rumped petrel (Pterodroma phaeopygia sandwichensis), Newell's Townsend's shearwater (Puffinus auricularis newelli)	2	1.1	Locate, delineate, and declare essential habitat	Obsolete			Hawaii Department of Land and Natural Resources, National Park Service, U.S. Fish and Wildlife Service, Endangered Species Division	Management: Planning	Contract	Current USFWS policy does not include delineation of essential habitat. However the State Kauai Endangered Seabird Recovery Project and NPS are mapping colony locations. In addition, a modeling project (KESRP and Texas State University) is underway to predict habitat likely to support listed seabirds.
Hawaiian dark-rumped petrel (Pterodroma phaeopygia sandwichensis), Newell's Townsend's shearwater (Puffinus auricularis newelli)	2	1.41	Include consideration of seabirds in review land use zoning variance proposals	Not Started			Hawaii Department of Land and Natural Resources	Management: Planning	Internal Field Assistance	
Hawaiian dark-rumped petrel (Pterodroma phaeopygia sandwichensis), Newell's Townsend's shearwater (Puffinus auricularis newelli)	1	2.11	Determine need for predator control at each nesting area	Ongoing Current	FY 2009		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Predator and Competitor Control	Species Expert	The State of Hawaii's Kauai Endangered Seabird Recovery Project has initiated this assessment for those colonies they have located and can access for this purpose, notably the Upper Limahuli Valley.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	2.12	Predator trapping where needed	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Animal and Plant Health Inspection Service, Wildlife Services (formerly Animal Damage Control), U.S. Fish and Wildlife Service National Wildlife Refuge System	Management: Predator and Competitor Control	Contract	Predator control has been conducted for nesting Hawaiian petrels for many years in Hawaii Volcanoes and Haleakala National Parks, has been underway for petrels on Lanai for the past four years, and was initiated last year in Upper Limahuli Valley for Hawaiian petrels and Newell's shearwaters. Ongoing predator control at Kilauea Pt. National Wildlife Refuge benefits the few pairs of Newell's shearwaters that nest there.
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	2.13	Manage pig predation with liberal hunting seasons and access	Obsolete			Hawaii Department of Land and Natural Resources, National Park Service	Management: Predator and Competitor Control	Contract	Recovery plan states this strategy may be useful "in some cases" to reduce predation on seabirds; generally this is not be a desirable method for controlling predators in 'a'o or 'ua'u nesting areas.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	2.14	Fence nesting habitats where needed and where feasible	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, National Park Service	Management: Habitat Maintenance and Manipulation	Contract	The first such fence on Kauai, of 400 acres in the Upper Limahuli Valley (National Tropical Botanical Garden) is now complete. In 2010, FWS contributed \$70K to a cat-fence project that will protect a large proportion of the remaining nest sites of the Hawaiian petrel on Mauna Loa. [NOTE initiation date says 1909! Tried to edit to say 2009, but change didn't "take".]
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	2.151	Perfect safe toxicant and application methods within nesting sites	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Animal and Plant Health Inspection Service, Wildlife Services (formerly Animal Damage Control)	Research: Predation	Contract	Cost to be determined.
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	2.152	Obtain toxicant registration and permits for use	Partially Complete	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Animal and Plant Health Inspection Service, Wildlife Services (formerly Animal Damage Control), U.S. Fish and Wildlife Service National Wildlife Refuge System	Management: Land Use	Internal Administrative	Some permits must be obtained on a case by case basis; costs are variable. General EPA registration for aerial broadcast and bait-station application of rodenticide in Hawaii has been completed. Preliminary research is underway to develop baits for a toxicant to kill feral cats.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	2.16	Determine degree of owl predation and control if needed	Ongoing Not Current	FY 2007		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Animal and Plant Health Inspection Service, Wildlife Services (formerly Animal Damage Control)	Management: Predator and Competitor Control	Contract	A project to collect owl and other predator tissues for stable isotope analysis of to determine predation on seabirds was initiated by the State under guidance from USFWS in 2006 (with USFWS recovery funding). This project was completed in 2009, but the results were inconclusive. Therefore this question remains to be answered.
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	2.171	Monitor for presence of new predators	Not Started			Hawaii Department of Land and Natural Resources, National Park Service, U.S. Animal and Plant Health Inspection Service, Wildlife Services (formerly Animal Damage Control)	Management: Predator and Competitor Control	Contract	
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	2.172	Develop new predator eradication plans, authority and responsibility	Not Started			Hawaii Department of Land and Natural Resources, National Park Service, U.S. Animal and Plant Health Inspection Service, Wildlife Services (formerly Animal Damage Control)	Management: Planning	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	2.173	Inform public on undesirability of new predators	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, Hawaii Department of Agriculture, Hawaii Department of Transportation, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Animal and Plant Health Inspection Service, Wildlife Services (formerly Animal Damage Control), U.S. Fish and Wildlife Service National Wildlife Refuge System	Other: Information and Education	Contract	
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	2.174	Enforce laws prohibiting certain exotic animal introductions	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, Hawaii Department of Agriculture, National Park Service, U.S. Animal and Plant Health Inspection Service, Wildlife Services (formerly Animal Damage Control)	Other: Law Enforcement	Contract	test
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	2.211	Set up and administer aid stations for salvage project	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources	Management: Other	Contract	The Save Our Shearwaters program on Kauai has been operating since 1979.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	2.212	Pick up, band, and release fallen birds	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources	Management: Other	Contract	The Save Our Shearwaters program on Kauai has been operating since 1979.
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	2.221	Determine efficacy of reduced light intensity fallout	Ongoing Current	FY 2006		Hawaii Department of Land and Natural Resources	Research: Population Surveys	Contract	
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	2.223	Determine efficacy of polarized light in reducing fallout	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division	Research: Management Techniques	Contract	
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	2.224	Develop light abatement implementation methods	Ongoing Current	Prior to FY 1995		Unknown, Hawaii Department of Land and Natural Resources, Hawaii Department of Transportation, U.S. Fish and Wildlife Service, Endangered Species Division	Management: Habitat Maintenance and Manipulation	Contract	
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	2.225	Education - light attractant problem and abatement methods	Ongoing Current	Prior to FY 1995		Unknown, Hawaii Department of Land and Natural Resources, Hawaii Department of Transportation, National Park Service, U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Other: Information and Education	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	2.226	Locate primary light attraction problem areas	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service, Endangered Species Division	Management: Land Use	Contract, Internal Technical Assistance, Species Expert	These are now fairly well known on Kauai as a result of HCP processes for the island of Kauai and for the Kauai Island Utility Cooperative.
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	2.227	Obtain funding for light abatement applications	Not Started			Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service, Endangered Species Division	Other	Contract	
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	2.228	Obtain legislation to reduce light problem	Not Started			Unknown, Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service, Endangered Species Division	Other: Regulations	Species Expert	
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	2.32	Determine the role of disease as a limiting factor of 'a'o and 'ua'u	Not Started			U.S. Geological Survey, Biological Resources Division	Research: Disease	Contract	
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	2.33	Implement disease control measures if needed and feasible	Not Started			Hawaii Department of Land and Natural Resources, National Park Service, U.S. Fish and Wildlife Service National Wildlife Refuge System	Management: Disease Control	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	3.11	Locate typical habitat with aerial photos, vegetation type maps, etc.	Partially Complete	FY 2009		Hawaii Department of Land and Natural Resources, National Park Service, U.S. Fish and Wildlife Service, Endangered Species Division	Research: Habitat Status	Graduate Student	This work has been undertaken for the Newell's shearwater by a graduate student at Texas State University in collaboration with the State's Kauai Endangered Seabird Recovery Project. The resulting GIS habitat model is nearing completion but is likely to have predictive value only for Kauai
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	3.12	Conduct nighttime auditory sampling for nesting colonies	Ongoing Current	FY 2000 - FY 2004		Hawaii Department of Land and Natural Resources	Research: Population Surveys	Contract	Auditory and/or radar surveys are conducted on Kauai and Lanai by the State.
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	3.13	Determine colony boundaries by ground surveys	Partially Complete	FY 2000 - FY 2004		Hawaii Department of Land and Natural Resources, National Park Service, U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Population Surveys	Contract	This work is done on Haleakala (Maui) by the National Park Service, and on Kauai and Lanai by the State. Determining colony boundaries in vegetated habitat (i.e., other than high elevation habitats on Maui and the Big Island) proves to be very difficult and incurs risk of creating vectors for predators.



Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	3.21	Develop population status monitoring technique	Ongoing Current	FY 2006		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service, Endangered Species Division	Research: Population Surveys	Contract	This has been done on a coarse level (using data from radar surveys) by contract scientists. Further refinement of radar surveys has been undertaken since 2006 by the State's Kauai Endangered Seabird Recovery Program on Kauai, and by a collaborative project led by USGS in Haleakala National Park (using PIT tags, Autonomous Recording Units, and radar surveys).
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	3.22	Devise population monitoring techniques and accomplish every 3 years	Ongoing Current	FY 2006		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Population Surveys	Contract	Population monitoring ('ua'u) takes place annually at Haleakala National Park. Monitoring of 'ua'u and 'a'o using radar survey techniques takes place annually on Kauai.
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	3.231	Determine nesting chronology	Ongoing Current	FY 2000 - FY 2004		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Demographic Studies	Contract	One study of 'a'o phenology (N=2 pairs) has been underway at Kilauea Pt. NWR since 2003. Phenology of 'ua'u has been documented at Haleakala National Park, but this environment may represent atypical habitat or conditions for this species. Phenology of 'ua'u is also under study on Lanai.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	3.232	Determine nesting success rates	Ongoing Current	FY 2007		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Demographic Studies	Contract	Nest success of 'ua'u at Haleakala National Park has been monitored to some extent for many years, but these data have not been fully analyzed or published. With federal funds, State of Hawaii has begun a nest success study of 'ua'u on Lanai.
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	3.233	Determine mortality rates and age stratification by banding program and analysis	Not Started			Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Demographic Studies	Contract	Until colonies are fully protected and monitored, this study cannot be undertaken.
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	4.1	Study of 'a'o and 'ua'u nesting ecology for application to transplant studies	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service, Endangered Species Division	Research: Demographic Studies	Contract	'Ua'u study initiated in 4/79 in Haleakala National Park, 'ua'u nest monitoring begun in 2006 on Lanai. 'A'o nesting study conducted beginning in 2005 on Kauai, but sample size is only two or three pairs. Sufficient information about breeding phenology exists to support development of translocation methods.
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	4.21	Locate eggs and transplant into surrogate nests	Obsolete			Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service National Wildlife Refuge System	Management: Propagation	Contract	This action is currently suspended pending review of the need for translocation and review of other, possibly more effective translocation methods.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	4.22	Monitor cross-fostering success and evaluate	Obsolete			Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service National Wildlife Refuge System	Management: Propagation	Contract	This action is currently suspended pending review of the need for translocation and review of other, possibly more effective translocation methods.
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	1	4.23	Develop translocation methods	Not Started	FY 2011		Hawaii Department of Land and Natural Resources, National Park Service, U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Management: Reintroduction, Research: Management Techniques	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	Translocation (to protected, artificial colonies) and hand-rearing of petrel and shearwater chicks has been proven as a successful method to establish colonies of these seabird taxa in locations where they can be managed and studied. We have on file a preliminary proposal from a New Zealand expert to develop protocols for translocation of Newell's shearwaters and Hawaiian petrels.
Hawaiian dark-rumped petrel ( <i>Pterodroma phaeopygia sandwichensis</i> ), Newell's Townsend's shearwater ( <i>Puffinus auricularis newelli</i> )	2	5.1	Prepare information packets	Ongoing Current	FY 2006		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service, Endangered Species Division	Other: Information and Education	Contract	Currently underway on Kauai through State and private efforts.